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Designing technology that enables task design.

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Summary: Although there is considerable interest in the use of technology in mathematics teaching and learning, there has been little focus within mathematics education on the design of the technology itself, or on how technology design might facilitate task design. In this chapter, we address the question of how technology has been designed to enable task design through interviews with four developers of technology environments designed to facilitate the learning of mathematics. Questions ranged from more general ones concerning the purposes and challenges faced in designing the environments to more specific aspects concerned with task design, such as the management of instrumental genesis and the provision of feedback. We found that all designers are facing technical challenges due to rapid hardware and software changes which make it important to identify the crucial aspects of the technology to conserve and develop. Such aspects include maintaining an appropriate balance between flexibility and constraint as well as addressing issues such as the way in which the environment responds to student actions.

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